

**Type Locality for *Cercyonis nephele* Kirby and "Upper Canada"
Insects Collected in the 1820's¹**

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Abstract Collecting areas have been determined from which the type locations should be selected for the material described by Kirby from the "Upper Canada" collections of Bigsby.

In the course of studying the Satyrid types erected by W. H. Edwards, I found it necessary to investigate the type locality of *Hipparchia nephele* Kirby, now considered to be a form of *Cercyonis alope* (Fabricius). Kirby (1837) described *nephele* in "Fauna boreali-America," part IV, a work prepared by Sir John Richardson giving an account of what then was known of the fauna of Canada. I noticed that the major source of the insects reported by Kirby was "Dr. Bigsby." Usually the locality for these insects is reported as "Upper Canada," occasionally it is "Lake Huron" or "Lake St. Claire." Since Edwards had described from Chicago, Illinois, *Satyrus olympus*, a taxon that is separable from *nephele* only in the late larval stages, it is important that a more precise locality be fixed for *nephele* than "Upper Canada."

At the time that Dr. Bigsby collected his material, and that Kirby reported upon them, there were three "Canadas." The geographic term "Canada" (or Lower Canada) referred to what now is the province of Quebec. "Canada West" was used for the southern part of the province of Ontario, roughly that part between the province of Quebec and the Great Lakes as far north as Georgian Bay, Lake Nipissing, and the Ottawa River. "Upper Canada" appears to have been used for the north shores of Lake Huron and Lake Superior and west to Lake of the Woods.

Through Canadian reference librarians of the University of Toronto and of the Hudson's Bay Company, I was put on the track of Dr. Bigsby's account of his travels in Canada. Dr. John Jeremiah Bigsby (1792-1881) studied medicine, came to Canada in 1818 as an Army Medical officer, and while there developed an interest in geology. In 1819 he was commissioned to make a geological survey of Upper Canada. In 1821 (?) he accompanied the staff of the Canadian-United States boundary commission to Lake St. Claire and the vicinity and in 1822 became the British Secretary and medical officer of the Commission. He returned to England in 1827. A succinct account of Bigsby will be found in "Dictionary of National Biography" 5, p. 27.

Bigsby's (1850) own account of his stay in Canada is rambling and extremely interesting, but contains little reference to his entomological endeavors. These are confined to pages 165 *et seq* in the second volume, and Appendix "C" of the same volume. He did not like collecting insects but apparently did so at the

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urging of the Rev. William Kirby. In the foreword of Appendix C, Bigsby wrote, "The following list, collected by the author principally in Lake Huron, has been drawn up by the Rev. W. Kirby, F.R.S." In this list a few names are indicated as based upon specimens from Lake St. Claire. Apparently the remainder were collected on the shores of Lake Huron. Eighty-seven new names were proposed by Kirby in "Fauna boreali-America" for insects collected by Bigsby. Half of these apply to Coleoptera, and the rest are scattered among seven other orders.

It is apparent that the major portion of the collection of some 1,200 specimens given by Bigsby to Kirby was collected during the summer of 1822. The Boundary Commission spent that summer in the area at the extreme western end of North Channel, Lake Huron, a contiguous waterway connecting Lake Superior with Lake Huron. The camps occupied during the summer are listed (Bigsby, 2: 165) as "Encampment Douce" at the foot of the East Nibish Rapids, [;] on the south point of St. Joseph and the islets on its east, [;] in Portlock Harbour on the north main, in the Pelletau Narrows, [;] and on the Little Manitou." Little Manitou Island now is called Cockburn Island and lies between Drummond and Manitoulin islands. Elsewhere in the narrative I have gleaned that 3 weeks were spent at Encampment Douce, 10 days at Fort St. Joseph, then in ruin on the south point of the island, 3 weeks in September on Little Manitou Island, and that the work was completed for the season on September 27.

Bigsby's position on the Commission allowed him considerable free time for geology and incidental entomological collecting. The general area from which the specimens collected came is shown in almost the exact center of Sheet 41 of the 16 miles to the inch series of maps and at the junction of the three sheets, 41 NW, 41 NE, and 41 SE of the 8 miles to the inch series published by the Department of Mines and Technical Surveys, Ottawa. The center-point is at approximately 47° N, 84° W.

Thus it seems that the type localities for material described by Kirby from the collections of Dr. Bigsby and stated to be from "Upper Canada" should be selected from these places as they are known today:

1. "Encampment Douce, at the foot of the East Nibish Rapids" appears, from information given on pp. 119-121, to be East Neebish Island (approx. 46° 20' N, 84° 06' W).
2. "on the south point of St. Joseph," from the illustration facing p. 165 appears to be on the point that forms the southern boundary of Worsely Bay on the east side of the southern point of St. Joseph Island (approx. 46° 06' N, 83° 53' W).
3. "Portlock Harbour on the north main, in the Pelletau Narrows" is the bay just south of the present town of Portlock (approx. 46° 20' N, 83° 53' W). The Pelletau Narrows now are known as St. Joseph Channel.
4. "and on Little Manitou Island," is described on p. 170 as "Our encampment

of the Little Manitou Island . . . was on the north side, nearly in the middle, on a dry, sheltered knoll, eight or ten feet high overlooking a boat-cove, itself within a small round bay, where a schooner or two might anchor." This now is called Tolsma Bay on Cockburn Island (approx. 45° 56' N, 83° 19' W).

Four butterfly names appear to be involved with two currently established entities. They are: *nephele* Kirby (1837), with its type locality somewhere in the region just described; *olympus* Edwards (1880a), with its type locality Chicago, Illinois (Brown, 1964, p. 376); *ino* Hall (1924) with its type locality Calgary, Alberta; and *borealis* Chermock (1929), with its type locality in Ohio. All of these lack a light field surrounding the ocelli on the upper side of the forewings. All are about the same size. All bear a variable number of ocelli on the underside of the hind wing. On all, the light ring surrounding the ocelli is either yellow or rusty colored.

Edwards (1880b) considered the form of *alope* without a yellow field and found in the Catskill Mountains of New York to be representative of *nephele*. This form he discovered had larvae that in no evident way differ from those of typical *alope*. A similar form that he raised from eggs gathered in the vicinity of Chicago, Illinois, has a fourth-instar larva that is more clearly striped than that of *alope*. To this he gave the name *olympus*. We have no knowledge of the appearance of the fourth-instar larvae of *nephele* from its type region, of *ino* nor of *borealis*. Therefore, assignment of any of these names to a specimen from other than the type locality of the name is subjective. We do not know if the larval differences that Edwards observed between his "*nephele*" and *olympus* are constant. The solution to the taxonomic puzzles involved in the proper placement and use of the four names requires extended and careful life history work, repeating and extending the work started by Edwards. With the restriction of the type locality of *nephele* to the above cited region, the task to be accomplished is now defined.

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